

WHAT IS CLAIMED IS:

1. An optical wiring board comprising:  
a support board; and

5 an optical component including:

an optical waveguide, which has a plate shape and  
has at least two end faces; and

an optical fiber connected to at least one of the  
end faces of the optical waveguide optically, wherein:

10 the optical component is placed on the support board;

and

the optical component is sealed by resin.

2. The optical wiring board according to claim 1,

15 wherein:

the optical fiber includes a first optical fiber and  
a second optical fiber;

the first optical fiber is connected to the one of the  
end faces of the optical waveguide; and

20 the second optical fiber is connected to the other of  
the end faces of the optical waveguide.

3. The optical wiring board according to claim 1,

wherein:

25 the optical fiber is a plurality of optical fibers, which

are connected to the one of the end faces of the optical waveguide optically; and

an optical signal is input to and output from the optical waveguide through the optical fibers.

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4. The optical wiring board according to claim 1, wherein:

the optical component further includes a light diffusion member having a diffusion portion for diffusing light; and

10 the light diffusion member is disposed at one of:

a position between the one of the end faces of the optical waveguide and the optical fiber; and

a position of the other of the end faces of the optical waveguide.

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5. The optical wiring board according to claim 4, wherein the optical component further includes a inflow prevention member for preventing the resin from flowing into the diffusion portion of the light diffusion member.

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6. The optical wiring board according to claim 5, wherein the inflow prevention member is a resin having viscosity being not less than 5000cps and thixotropic characteristic applied onto a vicinity of an edge of the  
25 diffusion portion of the light diffusion member.

7. The optical wiring board according to claim 5,  
wherein the inflow prevention member is a tape applied to  
a vicinity of an edge of the diffusion portion of the light  
5 diffusion member.

8. The optical wiring board according to claim 1,  
wherein the resin is selected in accordance with difference  
in thermal expansion coefficient between the support board  
10 and the optical component.

9. The optical wiring board according to claim 1,  
wherein a refractive index of the resin is smaller than at  
least one of that of the optical waveguide and that of a core  
15 material of the optical fiber.

10. The optical wiring board according to claim 1,  
wherein the support board has flexibility.

20 11. An optical wiring board comprising:  
a support board;  
an optical component including:  
an optical waveguide, which has a plate shape and  
has at least two end faces;  
25 an optical fiber, one end face of which is connected

to at least one of the end faces of the optical waveguide  
optically; and

a positioning member for positioning the other end face  
of the optical fiber, the positioning member having a through  
5 hole which the other end face of the optical fiber passes  
through, wherein:

the optical component is placed on the support board;  
and

the optical component is sealed by resin.

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12. An optical bus system comprising:

a conversion circuit section for converting an electric  
signal into an optical signal and converting the optical  
signal into the electric signal; and

15 an optical wiring board for transmitting and receiving  
the optical signal to and from the conversion circuit section,  
wherein:

the optical wiring board includes:

a support board; and

20 an optical component including:

an optical waveguide, which has a plate shape  
and has at least two end faces; and

an optical fiber connected to at least one  
of the end faces of the optical waveguide optically,

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wherein:

the optical component is placed on the support board;  
and  
the optical component is sealed by resin.

5        13. A method for manufacturing an optical wiring board  
including:

        a support board; and

        an optical component having:

            an optical waveguide, which has a plate shape

10        and has at least two end faces; and

            an optical fiber connected to at least one of

            the end faces of the optical waveguide optically,

wherein the optical component is placed on the support board,  
the method comprising:

15        temporarily securing the optical component on the  
support board; and

        sealing the optical component by resin.

        14. The method according to claim 13, wherein:

20        the temporarily securing is conducted using one of  
adhesive and a tape; and

        the sealing is conducted over the one of the adhesive  
and the tape.

25        15. The method according to claim 13, wherein:

the temporarily securing is conducted using adhesive having a refractive index equal to those of the optical fiber and the optical waveguide; and

the temporarily securing includes filling a gap between  
5 an end face of the optical fiber and an end face of the optical waveguide with the adhesive.

16. The method according to claim 13, wherein:

the optical component further includes a light diffusion  
10 member having a diffusion portion for diffusing light;

the light diffusion member is disposed at one of:

a position between the one of the end faces of  
the optical waveguide and the optical fiber; and

a position of the other of the end faces of the  
15 optical waveguide;

particles having different refractive index from each  
other are dispersed in the light diffusion member; and

the temporarily securing is conducted using adhesive  
having a refractive index equal to those of the optical fiber  
20 and the optical waveguide; and

the temporarily securing includes filling a gap between  
an end face of the optical fiber and an end face of the optical  
waveguide with the adhesive.